Transgender Health
Volume 8, Number 6, 2023
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DOI: 10.1089/trgh.2022.0041

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ORIGINAL ARTICLE

Beliefs and Intentions of Anesthesia Physicians Toward Providing Culturally Competent Care to Transgender Patients

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Abstract

Purpose: Anesthesiologists have limited relationships with their patients before delivering care and have little time for patient interactions. Yet, they should possess the knowledge and skills to treat all patients in an equitable, culturally competent manner, including transgender patients. The study's purpose was to determine behavioral factors influencing culturally competent care by anesthesia physicians with transgender patients.

Methods: A two-phase design was utilized in 2020 to examine the attitudes, subjective norms, and perceived behavioral control of anesthesia physicians, both in training and practicing independently. Phase 1 allowed exploration of themes related to facilitators and barriers of the provision of culturally competent care to transgender patients. Phase 2 involved the creation and deployment of a 51-question survey informed by phase 1 to 100 anesthesia physicians at a single academic medical center in the southeastern United States.

Results: Thematic analysis was performed on results from the phase 1 elicitation survey, which informed the creation of the survey for phase 2. One hundred phase 2 surveys were distributed, with a 70% response rate. Analyses were conducted to determine the largest influence of intent to interact with transgender patients in a culturally competent manner, as well as to establish the reliability of the tool.

Conclusion: Attitude followed by subjective norms were positive influencers of intent, while lack of knowledge was a negative influencer. Strengthening attitudes and subjective norms, while implementing programs to increase knowledge, competence, and humility, would be goals for future studies and actions toward improving healthcare of transgender individuals.

Keywords: anesthesia; cultural competence; physician; theory of planned behavior; transgender

Introduction

Approximately 1.4 million people in the United States identify as transgender.[1] The term transgender refers to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex.[2] Transgender individuals are arguably the most ostracized group in all of medicine with the largest number of health concerns.[3] Furthermore, transgender persons experience distinctive health disparities, such as chronic stress related to stigmas they endure.[4] Often, transgender patients encounter physicians who feel neither comfortable nor prepared in these patient/provider interactions, resulting in inadequate, inequitable care.[5–7]

Provider cultural competence refers to a provider's ability to deliver care that is both of highest quality and culturally appropriate to patients with differing cultural backgrounds.[8] Cultural competence promotes

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equitable healthcare access across diverse groups, ensuring that patients receive care that matches their needs.[9] Culturally competent care leads to increased patient-provider trust and satisfaction, decreased shame and embarrassment, and less avoidance of care.[10–12] However, research suggests that healthcare providers often lack the necessary cultural competence needed to effectively interact with their transgender patients.[13] This is particularly troubling, given a long history of discrimination and bias in healthcare has resulted in transgender individuals delaying or avoiding care, contributing to this population's chronic stress and poorer health outcomes.[14–18]

An increasing number of transgender persons are having surgical procedures, particularly gender-affirming surgeries, which have been shown to decrease rates of gender dysphoria to the point of saving lives.[19–23] With the number of transgender individuals desiring to have gender-affirming surgery rising, it is increasingly likely that transgender individuals will appear within surgical settings.[16] There is a growing need for those within surgical settings, including anesthesia physicians, to develop the knowledge and skills necessary for culturally competent interactions with their transgender patients, promoting provision of safe, equitable, and high-quality care during the perioperative period.[19]

As part of their preoperative assessment, anesthesia physicians need to ask questions, conduct examinations, and order tests that their transgender patients may not anticipate, including pregnancy tests for patients still in possession of certain reproductive organs.[24] This can be traumatizing to transgender patients since many of them have had negative healthcare experiences.[19] These conversations between anesthesia physicians and transgender patients can be challenging and fast-paced. As such, it is crucial that anesthesia physicians conduct the encounter in a culturally competent, knowledgeable way to quickly build rapport, taking steps to mitigate any perceived or real discrimination.[25–27]

The purpose of this study was to examine the beliefs and intentions of anesthesia physicians toward providing culturally competent care to transgender patients. The Theory of Planned Behavior asserts that intent is the best predictor of a person's behavior, with intent being measured through the assessment of constructs consisting of attitude, subjective norm, and perceived behavioral control.[28,29] Survey questions designed to measure these constructs have been shown to predict intent to perform specific behaviors. Anesthesia physicians' intention to provide culturally competent care was measured by assessing their attitudes regarding providing culturally competent care to transgender patients; the pressure, or subjective norms, they feel related to caring for these patients; and the degree of control they believe they have over giving this care. The questionnaire's psychometric properties were tested to ensure the tool's validity and reliability.

Methods

Study design

The study used a nonexperimental, cross-sectional predictive correlational survey methodology to develop a valid and reliable survey instrument based on the Theory of Planned Behavior. The survey examined anesthesia physicians' attitudes, subjective norms, perceived behavioral control, and behavioral intentions regarding the provision of culturally competent care to transgender patients.

Variables

The dependent variable was the intent to provide culturally competent care to transgender patients. The following independent variables were chosen based on the study's theoretical framework and previous research: attitude, subjective norm, perceived behavioral control, number of years in practice, age, gender identity, hours of transgender education, number of relationships with transgender individuals, perception of own knowledge of transgender cultural considerations, and level of support for acknowledging the difference in gender and sex.

Study population

The study population consisted of a random sample of physicians specializing in anesthesiology at a single, level 1 trauma and academic medical center in the southeastern United States. This included physicians still in their clinical anesthesia residency training, as well as anesthesiologists who were practicing independently. Study approval was granted from the study institution's Institutional Review Board (IRB) on August 21, 2020 (IRB No. 300005754), and informed consent was obtained from all participants.

Research questions

The study had the following research questions: (a) using a survey measuring anesthesia physicians' behavioral intent to provide culturally competent care to transgender patients, how does intent vary among

anesthesia physicians and (b) what is the best predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients?

Procedures

During phase 1 of the study, researchers constructed and deployed an elicitation questionnaire to 20 randomly selected members of the study population (Supplementary Appendix SA1). The questionnaire solicited feedback from respondents regarding any perception of positive outcomes when delivering culturally competent care to transgender patients, those who were either approving or disapproving of this care, and any barrier or promotor that could impact care delivery. In phase 2, a survey was designed using themes from this phase 1 elicitation questionnaire (Supplementary Appendix SA2). Once approved by all authors, the phase 2 survey was deployed to 100 randomly selected individuals from the study population, excluding those selected in phase 1.

Data collection and analysis

Surveys were distributed using anonymous, electronic links through institutional email to randomly selected, clinically active physicians from the institution's anesthesia department. Data analyses were performed using SPSS (version 26) and R (version 4.0.3), and a multiple linear regression for prediction equation was used to answer the research questions. Composite scores were created for each of the following: (a) attitude, (b) subjective norm, (c) perceived behavioral control, and (d) intention, with composite scores being utilized in the linear regression, along with other previously described independent variables.

Results

Phase 1 results

Seventy percent (sample size [n] = 14) of elicitation surveys were successfully completed and returned. Two researchers independently analyzed the survey data for themes, and then compared and discussed until consensus was reached. The prevailing attitudinal theme regarding advantages of provision of culturally competent care to transgender patients was of trust building between physician and patient. Other advantages included the ability to deliver effective, compassionate care, as well as delivery of better medical care to transgender patients after culturally competent interactions. Attitudinal barriers included lack of awareness of transgender status, limited understanding of transgender culture, and personal beliefs.

Regarding subjective norms, respondents felt that other physicians and those within the lesbian, gay, bisexual, and transgender community would approve of their providing culturally competent care to transgender patients. However, they felt that disapproval may be experienced by those who do not acknowledge the difference between gender and sex, as well as those who do not understand transgender healthcare needs. Finally, when considering perceived behavioral control, the most prominent themes enabling the target behavior included education, exposure to transgender individuals, and awareness of a person's transgender status. Conversely, themes regarding perceived difficulties included fear, ignorance, and workplace culture.

Phase 2 results

Using phase 1 themes, a quantitative survey instrument was developed by researchers and analyzed for face and content validity by several members of the target population not participating in the study. Seventy out of a possible 100 phase 2 questionnaires were fully completed and returned. The majority of respondents were 35 years or younger (n = 40, 57%) and male (n = 46; 66%), with almost half practicing medicine fewer than 5 years (n = 34; 49%). Most respondents did not have a personal relationship with a transgender person (n = 54; 77%) and received 0 to 5 hours of transgender education during medical training (n = 37; 53%). Complete phase 2 demographics can be found in Table 1.

In addition, respondents were asked on a 7-point Likert scale how supportive they were of acknowledging the difference in gender and sex (median [M] = 5.47; standard deviation [SD] = 1.734), along with how knowledgeable each person would consider himself/herself regarding transgender cultural considerations (M = 4.44; SD = 1.529). Higher scores were associated with increased supportiveness and increased perceived knowledge, respectively. Data from these questions are presented in Table 2.

Internal consistency reliability analysis resulted in the removal of two questions from the survey, resulting in three components with high Cronbach alpha (α) levels (attitude $\alpha = 0.890$; behavioral intention $\alpha = 0.817$; and subjective norm $\alpha = 0.782$) and another component with a marginal score (perceived behavioral control $\alpha = 0.658$). Composite scores were calculated for direct measures of intention, attitude, subjective norm, and perceived behavioral control, with the

Table 1. Demographics of the Phase 2 Study Population ($n=70$)

Variable	*f*	% of sample
Age, years		
<31	21	30
31–35	19	27.14
36–40	9	12.86
41–45	8	11.43
46–50	3	4.29
51–55	4	5.71
>55	6	8.57
Gender		
Male	46	65.71
Female	22	31.43
Nonbinary	2	2.86
Number of years practicing medicine (including residency)		
<5	34	48.6
6–10	15	21.4
11–15	8	11.4
16–20	3	4.3
>20	10	14.3
Hours of transgender education		
0–5	37	52.9
6–10	21	30
11–15	5	7.1
16–20	2	2.9
21–30	2	2.9
31–35	1	1.4
>35	2	2.9
Number of close relationships with transgender persons		
0	54	77.1
1	8	11.4
2	2	2.9
3	3	4.3
4	1	1.4
5	0	0
>5	2	2.9

f, Frequency.

Table 2. Supportiveness and Knowledge ($n=70$)

Variable	*f*	% of sample
Supportiveness of acknowledging gender vs. sex		
1 (Very unsupportive)	3	4.3
2	4	5.7
3	2	2.9
4	8	11.4
5	11	15.7
6	15	21.4
7 (Very supportive)	27	38.6
Perceived knowledge of transgender cultural considerations		
1 (Not very knowledgeable)	4	5.7
2	5	7.1
3	7	10.0
4	16	22.9
5	20	28.6
6	14	20.0
7 (Very knowledgeable)	4	5.7

f, Frequency.

resulting scores being utilized in multiple regression analyses to answer the research questions.

Pearson's product correlations were evaluated for both direct and indirect measures of constructs. The correlation coefficient between direct and indirect attitude was positive, large, and statistically significant (0.75, $p<0.001$). Similarly, behavioral intention was shown to have a statistically significant, strong correlation with both direct (0.79) and indirect (0.68) measures of attitude ($p<0.001$), as well as with direct subjective norm measures (0.75, $p<0.001$). See Table 3 for complete correlation outputs.

Regression statistics. A multiple regression equation was run with direct measures of attitude, subjective norm, and perceived behavioral control as independent variables and behavioral intent as the dependent variable. Based on this model, 68% of the variability in behavioral intent was accounted for by the combination of direct measures of attitude, subjective norm, and perceived behavioral control ($p<0.01$, adjusted $r^2=0.68$).

When looking at each construct's influence individually, the proportion of variability of intent (as measured by the adjusted r^2) was ~62% for the direct measure of attitude (beta coefficient [β] = 0.77, standard error [SE] = 0.07, $t = 10.653$, $p<0.001$), 56% for subjective norm ($\beta=0.74$, SE = 0.07, $t = 9.51$, $p<0.001$), and 22% for perceived behavioral control ($\beta=0.47$, SE = 0.10, $t = 4.62$, $p<0.001$), making attitude the best predictor of behavioral intent within these data. Complete regression statistics for a fully adjusted model containing the prediction involving all constructs and respondent characteristics can be found in Table 4.

Findings of statistical analyses for research questions. Multiple regression was utilized to answer the first research question: using a survey measuring anesthesia physicians' behavioral intent to provide culturally competent care to transgender patients, how does intent vary among anesthesia physicians? Significant predictors of intent included respondents' attitudes ($p<0.001$), subjective norms ($p=0.05$), and self-reported knowledge of transgender cultural considerations ($p=0.05$).

Multiple regression was also used to answer the second research question: what is the best predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients? The largest predictor of the target behavior was attitude ($\beta=0.43$, $p<0.001$), followed by subjective norms ($\beta=0.23$, $p=0.05$) and perception of own transgender cultural competence ($\beta=-0.11$, $p=0.05$).

Table 3. Correlations of All Phase 2 (n=70)

Variable	Correlation/Sig.	Intent	Direct Att	Indirect Att	Direct PBC	Indirect PBC	Direct Sub Norm	Indirect Sub Norm
Intent	Pearson correlation	1.00	0.79[a]	0.68[a]	0.48[a]	0.33[a]	0.75[a]	0.34[a]
	Sig. (two tailed)							
Direct Att	Pearson correlation	0.79[a]	1.00	0.75[a]	0.50[a]	0.35[a]	0.72[a]	0.29[b]
	Sig. (two tailed)							
Indirect Att	Pearson correlation	0.68[a]	0.75[a]	1.00	0.42[a]	0.40[a]	0.69[a]	0.45[a]
	Sig. (two tailed)							
Direct PBC	Pearson correlation	0.48[a]	0.50[a]	0.42[a]	1.00	0.34[a]	0.49[a]	0.17
	Sig. (two tailed)							
Indirect PBC	Pearson correlation	0.33[a]	0.35[a]	0.40[a]	0.34[a]	1.00	0.47[a]	0.25[b]
	Sig. (two tailed)							
Direct Sub Norm	Pearson correlation	0.75[a]	0.72[a]	0.69[a]	0.49[a]	0.47[a]	1.00	0.25[b]
	Sig. (two tailed)							
Indirect Sub Norm	Pearson correlation	0.34[a]	0.29[b]	0.45[a]	0.17	0.25[b]	0.25[b]	1.00
	Sig. (two tailed)							

[a]Correlation is significant at the 0.01 level (two tailed).
[b]Correlation is significant at the 0.05 level (two tailed).
Att, attitude; PBC, perceived behavioral control; Sig., significance; Sub Norm, subjective norm.

Discussion

Treating transgender patients in a culturally competent manner is an essential part of delivering high-quality care and positively impacts health outcomes.[30,31] No prior research has been conducted on the degree or influencers of cultural competence anesthesia physicians utilize in their care delivery with transgender patients. Study findings demonstrate that the statistically significant predictors of an anesthesia physician's intention to provide culturally competent care to their transgender patients are (a) attitude, (b) subjective norm, and (c) perception of own knowledge related to transgender cultural competence.

A positive attitude toward the provision of culturally competent care to transgender patients was shown to be the strongest predictor of intent. While intention was high, specific beliefs identified within the elicitation questionnaire could be targeted to increase the population's positive attitude, thereby increasing intent to provide culturally competent care. Emerging themes involved effective communication and trust between physicians and their transgender patients. Furthermore, although they want to interact with transgender patients in a culturally competent manner, respondents' reported lack of cultural understanding, and uncertainty in these interactions, can prevent that behavior from happening.

Improving physician comfort levels with and attitudes toward transgender patients is possible, but requires a commitment to repeated and interactive educational interventions.[32,33] If institutional promotion of trust-building and effective communication with transgender patients is accomplished, coupled with the necessary education regarding effective, culturally

Table 4. Regression Statistics for Prediction Equation

	Unstandardized coefficients		Standardized coefficients			
Model	*b*	SE	*β*	*t*	*p*	VIF
1						
Constant	1.45	0.55	0.02	2.63	0.01	
Direct Att	0.43	0.12	0.44	3.48	<0.001	3.64
Direct PBC	0.10	0.09	0.11	1.11	0.26	2.27
Direct Sub Norm	0.23	0.11	0.24	1.98	0.05	3.28
Age	0.12	0.10	0.23	1.21	0.23	8.08
Women	−0.01	0.16	−0.01	−0.10	0.91	2.62
Nonbinary gender	−0.66	0.60	−0.64	−1.10	0.27	2.62
Years practicing	−0.16	0.13	−0.23	−1.25	0.21	7.8
Transgender education	0.03	0.07	0.12	0.04	0.66	2.04
Transgender relationships	−0.03	0.07	−0.04	0.006	0.66	1.85
Supportiveness	0.005	0.07	0.19	0.17	0.94	1.72
Perceived CC	−0.11	0.05	−0.19	−0.17	0.05	1.64

CC, cultural competence; SE, standard error; VIF, variance inflation factor.

competent transgender patient interactions, this study suggests that anesthesia physicians' attitudes toward the behavior will become more positive, thereby increasing intent.

Subjective norm was also shown to predict intent toward the target behavior. Elicitation questionnaire results suggest that members of the study population feel that many around them, including co-workers, support the provision of culturally competent care toward transgender patients. Concerns were noted regarding peers' personal or religious convictions that could cause opposition to any interaction with transgender persons, including altering communication or care delivery based on a patient's transgender status. Several respondents noted that, because the study institution is in the southern United States, these convictions may be more prevalent than elsewhere in the country.

One way to address these influences is with instruction and resources from influential members of the institution's anesthesiology department detailing the importance of identifying and acknowledging personal bias, including the effect it can have on patient interactions. Based on previous literature, this instruction should be regularly repeated and involve experiential components.[33] Another approach would be to provide instruction on how the provision of culturally competent care to transgender patients equates to better, more comprehensive care, as opposed to a personal acceptance of a patient's transgender status. By addressing these subjective norm factors directly, negative factors would decrease, thereby increasing the intent toward the target behavior.

Regarding respondents' perceptions of their own knowledge related to transgender cultural competence, the negative relationship suggests that respondents rating themselves as less knowledgeable had more intent to treat transgender patients in a culturally competent manner. It is possible that the Dunning-Kruger Effect had an influence in this study with those who had less intention of providing culturally competent care to transgender patients declaring high levels of knowledge regarding transgender cultural competence.[34] Conversely, those with higher intention levels toward the target behavior may have recognized they still had much to learn in terms of transgender culturally competent care, thereby rating their own knowledge lower than their peers.

Overall, results from the study were promising, with most respondents indicating a high level of support toward acknowledging the difference in gender and sex. The average score for questions directly measuring intention toward the target behavior was 6.42, indicating that most respondents regarded the provision of culturally competent care to transgender patients favorably.

Implications

Study findings indicate that anesthesia physicians' attitudes, subjective norms, and perceptions of their own knowledge related to transgender cultural competence are significant predictors of the intention toward the target behavior. While many within the target population desire to have culturally competent interactions with transgender patients, there is concern over lack of skill and preparedness to do so. Physicians should be taught as early as medical school how to effectively communicate in a culturally competent manner with transgender patients, with special emphasis on the relationship between culturally competent interactions and health outcomes.

In addition, given that exposure to, and interactions with, transgender patients vary considerably throughout training, steps should be taken to ensure trainees can practice interactions with transgender patients in a simulated setting. Finally, training and emphasis on culturally competent care of transgender patients should expand to reach practicing providers, especially those who had limited or no exposure to related content during their medical training experiences. With focused continuing education, training, and institutional support, anesthesia physicians will gain confidence in their abilities to successfully perform the target behavior, while understanding that doing so is supported at the highest level professionally.

Recommendations for future research include investigating the antecedents of constructs deemed to significantly influence intent. By doing this, more targeted interventions can be developed to ultimately improve the performance of the behavior itself. Also, including a larger sample group from multiple institutions across the United States will show how the pilot study findings differ based on factors such as geographic location, patient population, and presence of education on transgender cultural competence within an institution. Finally, examining how individuals rate their intent to interact with transgender patients in a culturally competent manner, and their perceived skill level in doing so, compared with their actual interactions with transgender individuals in either a clinical or simulated setting could lead to important discoveries regarding discrepancies between one's intent to perform a behavior and physically performing the behavior itself.

Limitations

There are several limitations of our study. This study was limited to physicians specializing in anesthesiology practicing at a single academic medical center in the southeastern United States. Future studies could be expanded to Certified Registered Nurse Anesthetists at the same institution, or the number of institutions could be increased to enlarge sample size. In addition, minimizing the survey length by including fewer themes and indirect measures of theoretical constructs may have yielded higher response rates.

Conclusion

Anesthesia physicians at an academic medical institution in the southeastern United States showed an overall high intent to provide culturally competent care to transgender patients, with attitude toward the provision of this care being the strongest predictor of intent. Subjective norms and perception of one's own knowledge of transgender cultural considerations were also shown to significantly influence one's intent toward this behavior. These researchers believe that, as societal acceptance of transgender persons rises, numbers of transgender patients seen by anesthesia physicians will also grow. Thus, the provision of culturally competent care with this population will be increasingly important.

As previously discussed, interventions aimed at significant influencers of intent to perform the target behavior have an increased likelihood of influencing the behavior itself. Based on this research, it is reasonable to believe that, while most anesthesia physicians within the target population have a strong intent to provide culturally competent care to transgender patients, their behavior may be inhibited by lack of knowledge and practice. This points to a larger issue related to a lack of transgender education and exposure during medical education. Until this educational gap is addressed, variation in the presence and effectiveness of the target behavior will persist.

Authors' Contributions

E.B.: conceptualization (lead), methodology (lead), formal analysis (lead), investigation (lead), data curation (lead), writing—original draft preparation (lead), visualization (lead), and project administration (lead).

R.E.: conceptualization (supporting), methodology (supporting), writing—review and editing (equal), and supervision (lead).

H.A.: writing—review and editing (equal) and supervision (supporting).

M.B.: formal analysis (supporting), writing—review and editing (equal), and supervision (supporting).

T.C.: writing—review and editing (equal) and supervision (supporting).

J.L.: methodology (supporting), writing—review and editing (equal), and supervision (supporting).

Acknowledgments

We would like to thank Dr. Joshua Richman and Lynn Andreae for their statistical advice.

Data Availability

Data are available upon request.

Author Disclosure Statement

No competing financial interests exist.

Funding Information

No funding was received for this article.

Supplementary Material

Supplementary Appendix SA1
Supplementary Appendix SA2

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Cite this article as: Blanchard E, Evans R, Abdullatif H, Brown M, Carter T, LaChenaye J (2023) Beliefs and intentions of anesthesia physicians toward providing culturally competent care to transgender patients, *Transgender Health* 8:6, 542–549, DOI: 10.1089/trgh.2022.0041.

Abbreviations Used

Att = attitude
CC = cultural competence
PBC = perceived behavioral control
SD = standard deviation
SE = standard error
Sig. = significance
Sub Norm = subjective norm
VIF = variance inflation factor